

**IN THE SPECIFICATION**

On page 8, line 26 to page 9, line 3, please amend the specification as follows:

According to particular embodiments, distribution module 22 uses Bayesian logic to enable redistribution of particles ~~with~~ within the space of potential signals. This enables distribution module 22 to refine each successive distribution based upon cumulative probabilities for each particle. For example, using Bayesian logic, distribution module 22 can combine the prior likelihood of each particle with the current measurement to establish a posterior probability for each of the particles. Distribution module 22 may then resample the particles with replacement from the previous distribution based upon these posterior probabilities. This resampling can result in the number of particles within any portion of the signal space approximating the probability distribution of the signal being measured.

On page 11, line 29 to page 12, line 6, please amend the specification as follows:

With the signal models provided in this example, each sample provides information for validating the entire signal model. Thus in this example, each measurement and redistribution of particles helps receiver 14 to determine whether the received signal is a ~~sign~~ sine wave with a particular frequency. However, these techniques may also be applied to any suitable type of signals, including multi-value signals that may include information varying over time. For example, each particle used by receiver 14 may model a data sequence, such as a word of binary information. In these circumstances, each sample and redistribution of particles may apply to only a portion of the signal model. For example, each iteration may measure information regarding a value during a particular bit period.